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**Title**      EM Performance Analysis of Multilayered Metamaterial Frequency Selective Surfaces (FSS)

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**Abstract**

*This report presents an EM performance analysis of the multilayered metamaterial FSS using TLTM method. It is shown that a multilayered metamaterial structure reveals the FSS properties in several examples. For efficacy of the method, the computed results are validated for different types of metamaterial FSS structures such as dual band reflector, high reflection coating, and tri-layer radome with the reported results in the open literature. Excellent matching is found between computed and reported results. Further, a five- layer metamaterial FSS radome is investigated for TE and TM polarization at incident angles 0°, 30°, 45°, 60°, and 70°. It is observed that a multilayer metamaterial FSS radome exhibit multi-resonance properties with proper tuning of thickness of the layers.*